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IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)

20 June 2008

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Alcatel-Lucent Class 5 Electronic Switching System (5ESS) Very Compact Digital Exchange (VCDX) Digital Switching System with Software Release 5E16.2, Broadcast Warning Message (BWM) 07-0003

References: (a) DoD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01D, "Interoperability and Supportability of Information Technology and National Security Systems," 8 March 2006

1. References (a) and (b) establish the Defense Information Systems Agency, Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification. Additional references are provided in the enclosure.

2. The Alcatel-Lucent 5ESS VCDX Digital Switching System with Software Release 5E16.2, BWM 07-0003 is hereinafter referred to as the System Under Test (SUT). The SUT meets the critical interoperability requirements and is certified as interoperable for joint use within the Defense Switched Network (DSN). The SUT was tested and met the critical interoperability requirements for the following DSN switch types: Multifunction Switch (MFS) (except Europe), End Office (EO) (except Europe), Small End Office (SMEO) (except Europe), Private Branch Exchange (PBX) 1, PBX 2, and Deployable Voice Exchange. The SUT does not support the critical European interfaces required for MFS, EO, and SMEO switches. Therefore, the SUT is not certified by JITC nor approved by the DSN Program Management Office (PMO) for use in Europe as a MFS, EO, or SMEO. The identified test discrepancies shown in the SUT Interoperability Summary that remained open after software patches were applied and regression testing was completed have a minor operational impact. No other configurations, features, or functions, except those cited within this report, are certified by the JITC, or authorized by the Program Management Office for use within the DSN. This certification expires upon changes that affect interoperability, but no later than three years from the date of the original memorandum (10 December 2007).

3. The extension of this certification is based upon a desktop review. The original certification is based on interoperability testing conducted by JITC and a review of the vendor's Letters of Compliance (LoC). Certification testing was conducted at JITC's Global Information Grid Network Test Facility at Fort Huachuca, Arizona from 13 August through 24 September 2007 and documented in reference (c). Review of the vendor's LoC was completed on 10 October 2007. A desktop review was requested to include the following three patches: BWM07-0004,

BWM07-0005 and BWM08-0001. The desktop review also included a request to add the following two Integrated Services Digital Network phones: 8520 with software FP3.2-05/02/94 and 8528 with software FP3.6-08/13/96. The desktop review request was approved on 18 June 2008.

4. The SUT interoperability test summary is listed in table 1. The MFS Capability Requirements (CRs) and Feature Requirements (FRs) are listed in table 2. This interoperability test summary is based on the SUT's ability to meet:

a. The following network interfaces as specified in reference (d): DSN, Defense Red Switch Network Gateway, Tactical Network Gateway, and Public Switched Telecommunications Network.

b. Interface and signaling requirements for trunk, line, and network management interfaces, and interoperability CRs and FRs derived from reference (e).

c. The overall system interoperability performance derived from test procedures listed in reference (f).

d. Review of the LoC submitted by Alcatel-Lucent.

Table 1. SUT Interoperability Summary

DSN Trunk Interfaces			
Interface & Signaling	**Critical**	**Status**	**Remarks**
T1 CAS (DTMF, MFR1, DP)	Yes	Certified	Met all CRs and FRs.
E1 CAS (DTMF, MFR1, DP)	Yes (Europe only)	Not Tested	This interface is not supported. Therefore, the SUT is not certified by JITC nor approved by the DSN PMO for use in Europe as a MFS, EO, or SMEO. Since this is not a required interface for a MFS except when deployed in Europe, there is no operational impact.
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes	Certified	Met all CRs and FRs with the following exception: Does not support the full range of MLPP service domain.[1]
E1 ISDN PRI (ITU-T Q.955.3)	Yes (Europe only)	Not Tested	This interface is not supported. Therefore, the SUT is not certified by JITC nor approved by the DSN PMO for use in Europe as a MFS, EO, or SMEO. Since this is not a required interface for a MFS except when deployed in Europe, there is no operational impact.
T1 SS7 (ANSI T1.619a)	Yes	Certified	Met all CRs and FRs with the following exceptions: Does not support the full range of MLPP service domain.[1] Does not have the capability to assign prioritization to the Initial Address Message based on precedence level.[2]
E1 SS7 (ITU-T Q.735.3)	Yes (Europe only)	Not Tested	This interface is not supported. Therefore, the SUT is not certified by JITC nor approved by the DSN PMO for use in Europe as a MFS, EO, or SMEO. Since this is not a required interface for a MFS except when deployed in Europe, there is no operational impact.
DSN Line Interfaces			
Interface & Signaling	**Critical**	**Status**	**Remarks**
2-Wire Analog (GR-506-CORE)	Yes	Certified	Met all CRs and FRs with the following exceptions: Does not fully support MLPP functionality on a 3-Party call.[3] Does not properly support MLPP interaction for call pick-up.[4]
ISDN BRI S/T and U Interface ITU-T Q.931	Yes	Certified	Met all CRs and FRs with the following exceptions: Does not fully support MLPP functionality on a 3-Party call.[3] Does not properly support MLPP interaction for call pick-up.[4] The SUT will only support MLPP (voice) with 5E Custom BRI protocol.[5]
2-Wire Digital and Analog (Proprietary)	No	Not Tested	This interface is not supported. Since this is not a required interface for a MFS, there is no operational impact.
2-Wire Analog Ground Start Line (GR-506-CORE)	Yes	Certified	Met all CRs and FRs.
Voicemail			
Interface	**Critical**	**Status**	**Remarks**
T1 CAS	No	Certified	Met all CRs and FRs.
T1 ISDN PRI NI 1/2 (ANSI T1.607)	No	Certified	Met all CRs and FRs.
Serial SMDI interface[6]	No	Certified	Met all CRs and FRs.
Automated Call Distributor			
Interface	**Critical**	**Status**	**Remarks**
T1 CAS (DTMF, MFR1, DP)	No	Certified	Met all CRs and FRs. The SUT is certified for use with any ACD on the DSN APL which is certified for this interface.
T1 ISDN PRI NI 1/2 (ANSI T1.607)	No	Certified	Met all CRs and FRs. The SUT is certified for use with any ACD on the DSN APL which is certified for this interface.
Analog	No	Certified	Met all CRs and FRs. The SUT is certified for use with any ACD on the DSN APL which is certified for this interface.
Network Management[7]			
Interface & Signaling	**Critical**	**Status**	**Remarks**
IEEE 802.3 10BaseT Ethernet, TCP/IP	No	Certified	Met all CRs and FRs.
EIA-232 Asynchronous at 9.6 kbps	No	Certified	Met all CRs and FRs.
ITU-T X.25	No	Not-Tested	This interface is not supported. Since this is not a required interface for a MFS, there is no operational impact.

Table 1. SUT Interoperability Summary (continued)

DSN Features and Capabilities				
Features and Capabilities		**Critical**	**Status**	**Remarks**
Common Features		Yes	Certified	Met all CRs and FRs.
Attendant		Yes	Certified	Met all CRs and FRs.
Public Safety		Yes	Certified	Met all CRs and FRs.
Preset Conferencing		Yes	Certified	Met all CRs and FRs. Certified with any conference bridge on the DSN APL which is certified for the same interfaces.
Nailed-up Connections		Yes	Certified	Met all CRs and FRs.
Precedence Access Threshold		No	Certified	Met all CRs and FRs with the following exceptions: Does not support PAT queuing.[8]
DSN Hotline Services		Yes	Certified	Met all CRs and FRs.
Tandem Switching		Yes	Certified	Met all CRs and FRs.
ISDN Services (EKTS)		No	Not Certified	Does not support MLPP with EKTS.[9]
Synchronization		Yes	Certified	Met all CRs and FRs.
Reliability		Yes	Certified	Met all CRs and FRs.
Security		Yes	See note 10.	See note 10.
Network Gateways				
Gateway	**Interface & Signaling**	**Critical**	**Status**	**Remarks**
PSTN	T1 CAS (DTMF, MFR1, DP)	Yes	Certified	Met all CRs and FRs.
	E1 CAS (DTMF, MFR1, DP)	Yes (Europe only)	Not Tested	This interface is not supported. Therefore, the SUT is not certified by JITC nor approved by the DSN PMO for use in Europe as a MFS, EO, or SMEO. Since this is not a required interface for a MFS except when deployed in Europe, there is no operational impact.
	T1 ISDN PRI NI 1/2 (ANSI T1.607)	Yes	Certified	Met all CRs and FRs.
	E1 ISDN PRI (ITU-T Q.931)	Yes (Europe only)	Not Tested	This interface is not supported. Therefore, the SUT is not certified by JITC nor approved by the DSN PMO for use in Europe as a MFS, EO, or SMEO. Since this is not a required interface for a MFS except when deployed in Europe, there is no operational impact.
	Ground Start Line	Yes	Certified	Met all CRs and FRs.
Tactical	T1 CAS (DTMF, MFR1, DP)	Yes	Certified	Met all CRs and FRs.
	E1 CAS (MFR1)	Yes (Europe only)	Not Tested	This interface is not supported. Therefore, the SUT is not certified by JITC nor approved by the DSN PMO for use in Europe as a MFS, EO, or SMEO. Since this is not a required interface for a MFS except when deployed in Europe, there is no operational impact.
DRSN[11]	2-Wire Analog (GR-506-CORE)	Yes	Certified	Met all CRs and FRs.

Table 1. SUT Interoperability Summary (continued)

LEGEND:

10BaseT	- 10 Mbps (Baseband Operation, Twisted Pair) Ethernet	ITU-T	- International Telecommunication Union - Telecommunication Standardization Sector
802.3	- Standard for carrier sense multiple access with collision detection at 10 Mbps	JITC	- Joint Interoperability Test Command
		kbps	- kilobits per second
ACD	- Automated Call Distributor	MADN	- Multiple Appearance Directory Number
ANSI	- American National Standards Institute	Mbps	- Megabits per second
APL	- Approved Products List	MFR1	- Multifrequency Recommendation 1
BRI	- Basic Rate Interface	MFS	- Multifunction Switch
CAS	- Channel Associated Signaling	MLPP	- Multi-Level Precedence and Preemption
CRs	- Capability Requirements	NI 1/2	- National ISDN Standard 1 or 2
DCE	- Data Circuit-Terminating Equipment	NM	- Network Management
DISA	- Defense Information Systems Agency	PAT	- Precedence Access Threshold
DN	- Directory Number	PM	- Program Manager
DP	- Dial Pulse	PMO	- Program Management Office
DRSN	- Defense Red Switch Network	PRI	- Primary Rate Interface
DSN	- Defense Switched Network	PSTN	- Public Switched Telephone Network
DSS1	- Digital Subscriber Signaling 1	Q.735.3	- SS7 Signaling Standard for E1 MLPP
DTE	- Data Terminal Equipment	Q.931	- Signaling Standard for ISDN
DTMF	- Dual Tone Multi-Frequency	Q.955.3	- ISDN Signaling standard for E1 MLPP
E1	- European Basic Multiplex Rate (2.048 Mbps)	SMDI	- Simplified Message Desk Interface
EIA	- Electronic Industries Alliance	SMEO	- Small End Office
EIA-232	- Standard for defining the mechanical and electrical characteristics for connecting DTE and DCE data communications devices	SS7	- Signaling System 7
		S/T	- ISDN BRI four-wire interface
EKTS	- Electronic Key Telephone System	SUT	- System Under Test
EO	- End Office	T1	- Digital Transmission Link Level 1 (1.544 Mbps)
FRs	- Feature Requirements	T1.607	- ISDN – Layer 3 Signaling Specification for Circuit Switched Bearer Service for DSS1
GR	- Generic Requirement		
GR-506-CORE	- Telcordia Signaling for Analog Interface Generic Requirement	T1.619a	- SS7 and ISDN MLPP Signaling Standard for T1
GSCR	- Generic Switching Center Requirements	TCP/IP	- Transmission Control Protocol/Internet Protocol
IAM	- Initial Address Message	U	- ISDN BRI two-wire interface
IEEE	- Institute of Electrical and Electronics Engineers, Inc.	X.25	- Interface between DTE and DCE for terminals operating in the packet mode and connected to public data networks by dedicated circuit
ISDN	- Integrated Services Digital Network		

NOTES:

1 The SUT does not support the full range of MLPP service domains on the ANSI T1.619a ISDN T1 PRI and the ANSI T1.619a T1 SS7 trunk types. The SUT supports 256 MLPP service domains instead of the required 16,777,216. Since there is only one MLPP service domain used in the DSN, there is no operational impact.

2 The GSCR states that, in case of congestion, IAMs carrying FLASH or FLASH OVERRIDE calls shall be assigned a priority of three, IMMEDIATE calls shall be assigned a priority of two, PRIORITY calls shall be assigned a priority of one, and ROUTINE calls a priority of zero. The SUT does not have the capability to assign prioritization to SS7 IAMs based on precedence level (i.e. FLASH OVERRIDE, FLASH, IMMEDIATE, etc.). The SUT assigns a priority level of one in the IAMs to all precedence levels. Due to the amount of traffic in the DSN, congestion is not possible over the SS7 56 kbps link; therefore there is no operational impact.

3 The GSCR states that when any party of a 3-party call is preempted, the remaining parties will receive a conference disconnect tone. The SUT however, preempts all parties of the conference when the originator of the 3-party call is preempted. Since the originator is properly classmarked at the highest precedence of both legs of the 3-party call, the operational impact is minor.

4 The SUT call pickup feature doesn't retrieve the call with the highest precedence first. The SUT retrieves unanswered call pickup group calls above ROUTINE in a random sequence. The GSCR requires that "If a call pickup group has more than one party in an unanswered condition and the unanswered parties are at different precedence levels, a call pickup attempt in that group shall retrieve the highest precedence call first." All unanswered precedence calls above ROUTINE in the pickup group do divert after 15-45 seconds if unanswered and are positively connected to the attendant, night service, or alternate DN. The same method is used for diverting calls that go to an unattended phone. There is no operational impact because all precedence calls are answered.

5 The SUT only supports MLPP (voice) with 5E Custom protocol on their ISDN BRI interface with their proprietary 8510 instruments and certified Tone Commander ISDN BRI instruments. The Tone Commander ISDN BRI instruments have been tested and are the only ISDN BRI vendor certified for joint use within the DSN for all major DSN switches to include the SUT. In addition, the SUT BRI interface has been tested and is interoperable with all versions of the L3 Communications Secure Terminal Equipment devices using 5E Custom Protocol; therefore, there is no operational impact.

6 The SMDI serial interface is required for voice mail systems to turn on and turn off the voice mail lamp or stutter dial tone.

7 The GSCR NM requirements state that a switch can provide NM capabilities via Ethernet, serial asynchronous (EIA-232), or serial synchronous (ITU-T X.25). The SUT meets all the requirements for NM over EIA-232 asynchronous serial.

8 The SUT met all CRs and FRs for PAT with the following minor exception: PAT Queuing is not supported by the SUT. PAT is a conditional requirement for a MFS which makes the operational impact of this discrepancy minor.

9 The SUT did not meet all CRs and FRs for ISDN services EKTS. The SUT does not support MLPP interaction with telephones assigned the MADN option. This option applies to EKTS ISDN BRI telephones. The SUT does not support MLPP interaction with these instruments when more than one ISDN BRI instrument shares the same DN. Therefore, the EKTS MADN functionality of the SUT is not certified for use in the DSN. The operational impact is minor.

10 Information assurance testing is accomplished via DISA-led Information Assurance test teams and published in a separate report.

11 Interoperability certification of the SUT does not constitute DRSN PM approval for connectivity to the DRSN. It is the user's responsibility to request connectivity approval directly from the PM.

Table 2. MFS Requirements

DSN Trunk Interfaces				
Interface	**Critical**	**Requirements Required or Conditional**		**References**
T1 SS7 (ANSI T1.619a)	Yes	Trunking	• Framing (R)	• GSCR Section 7
			• Line Code (R)	• GSCR Section 7
			• Signaling (R)	• GSCR Section 5
			• Alarms (R)	• GSCR Section 2.5.7, 7.1.4 & 7.2.2
E1 SS7 (ITU-T Q.735.3)	Yes (Europe only)		• WWNDP (R)	• GSCR Section 4.5.1
			• Outpulsing digit formats (R: CAS only)	• GSCR Section 4.5.2
			• Routing (R)	• GSCR Section 4.2
			• Trunk Groups (R)	• GSCR Section 2.5.5 & 2.5.6
T1 CAS (MFR1, DTMF, DP)	Yes		• CAS to CCS trunk interworking (R)	• GSCR Section 3.10
			• PCM-24/PCM-30 Interoperation (R)	• GSCR Section 7.3
			• Direct Inward Dialing (R)	• GSCR Section 2.3.2
		Voice	• MOS (R)	• CJCSI 6215.01B
			• MLPP (R)	• GSCR Section 3
E1 CAS (MFR1, DTMF, DP)	Yes (Europe only)		• Secure calls (R)	• CJCSI 6215.01B
		Facsimile	• Analog: TIA/EIA-465-A (R)	• DISR
T1 ISDN PRI NI 1/2 (ANSI T1.619a)	Yes	Data	• Modem (VBD) (R)	• CJCSI 6215.01B
			• 56 kbps switched data (R)	• GSCR Section 3.10
			• 64 kbps switched data (R: E1, PRI, and SS7)	• GSCR Section 3.10
			• NX56 synchronous BER (R)	• GSCR Section 3.10
E1 ISDN PRI (ITU-T Q.955.3)	Yes (Europe Only)		• NX64 synchronous BER (R: E1, PRI, and SS7)	• GSCR Section 3.10
			• Secure data (STE/STU-III) (R)	• CJCSI 6215.01B
		VTC	• ITU-T H.320 (R)	• DISR
DSN Line Interfaces				
2-Wire Analog	Yes	Access	• Directory Number Identification (R)	• GSCR Section 2.1.1
			• Line signaling (R)	• GSCR Section 5.2
			• Loop Start Line (R: 2-Wire Analog only)	• GSCR Section 5.2.1
			• Analog Ground Start (R)	• GSCR Section 5.2.2
			• Alerting Signals and Tones (R)	• GSCR Section 5.5
ISDN BRI NI 1/2 (ANSI T1.619a)	Yes		• WWNDP (R)	• GSCR Section 4.5
			• Call Processing (R)	• GSCR Section 4.4
			• Call Treatments (R)	• GSCR Section 4.1
			• 2-Wire user access (R: 2-Wire Analog only)	• GSCR Section 4.3.3
			• Analog busy/idle (R: 2-Wire Analog only)	• GSCR Section 4.3.4.1
Proprietary	No	Voice	• MOS (R)	• CJCSI 6215.01B
			• Announcements (R)	• GSCR Section 3.1.3
			• MLPP (R)	• GSCR Section 3.4.3/3.9
			• Secure Calls (R)	• CJCSI 6215.01B
IEEE 802.3 TCP/IP	No	Facsimile	• Analog: TIA/EIA-465-A (R)	• DISR
		Data	• Modem (VBD) (R: 2-Wire analog only)	• CJCSI 6215.01B
			• 56 kbps switched data (R: BRI only)	• GSCR Section 3.10
			• 64 kbps switched data (R: BRI only)	• GSCR Section 3.10
			• NX56 synchronous BER (R: BRI only)	• GSCR Section 3.10
			• NX64 synchronous BER (R: BRI only)	• GSCR Section 3.10
			• Secure data (STE/STU-III) (R)	• CJCSI 6215.01B
		VTC	• ITU-T H.320 (R: BRI only)	• DISR

Table 2. MFS Requirements (continued)

Voice Mail Interfaces			
T1 CAS T1 ISDN PRI with B Channel Transfer Serial SMDI Interface	No	• FCC Part15/Part 68 (R) • DTMF outpulsing (C) • ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	• GSCR A7.5 • GSCR A7.5, 5.4.1, 5.4.2 • GSCR A7.5.5
ACD Interfaces			
T1 CAS (DTMF, MFR1, DP) T1 ISDN PRI NI 1/2 (ANSI T1.607) Analog	No	• DTMF outpulsing (C) • TIA/EIA-470-B (R): Analog only • PCM-24 as specified in GSCR, section 7.1 (R) • ROUTINE precedence only in accordance with GSCR, Section 3.3 (R)	• GSCR Sect. A7.5, 5.4.1, 5.4.2 • GSCR A7.5.1 • GSCR Sect. A7.5.5 • GSCR Sect. A7.5.5
DSN Features & Capabilities			
Feature/ Capability	**Critical**	**Requirements Required or Conditional**	**References**
Common Features	Yes	• Selective call rejection (C) • Denied originating service (C) • Code restriction and diversion (R) • Call waiting (C) • Three-way calling (C) • Add-on transfer, conference calling, and call hold (C) • Call forwarding (C) • Call pick-up (C)	• GSCR Section 2.1.2 • GSCR Section 2.1.3 • GSCR Section 2.1.4 • GSCR Section 2.1.5 • GSCR Section 2.1.6 • GSCR Section 2.1.7 • GSCR Section 2.1.8 • GSCR Section 2.1.9
Attendant	Yes	• Initiate all precedence levels (R) • Visual display (R) • Override class of service (R) • Override busy line (R) • Call deflection (R) • Auto recall (R) • Waiting queue (R) • Release to pivot (R: SS7 only)	• GSCR Section 2.2.1 • GSCR Section 2.2.2 • GSCR Section 2.2.3 • GSCR Section 2.2.4 • GSCR Section 2.2.5 • GSCR Section 2.2.6 • GSCR Section 2.2.7 • GSCR Section 2.2.8
Public Safety	Yes	• Basic Emergency Service (911) (C) • Trace of terminating calls (R) • Outgoing call trace (R) • Tandem call trace (R) • Trace of a call in progress (R)	• GSCR Section 2.4.1 • GSCR Section 2.4.2 • GSCR Section 2.4.3 • GSCR Section 2.4.4 • GSCR Section 2.4.5
Preset Conferencing	Yes	• Support 10 bridges; 1 originator and 20 conferees per bridge (R) • Assign up to 20 address numbers per bridge (R) • Use KXX codes for bridge access (R) • Conference notification recorded announcement (R) • Auto retrial and alternate address (R) • Bridge release (R) • Lost connection (R) • Secondary conferencing (R) • Address translation (R)	• GSCR Section 2.6 • GSCR Section 2.6 • GSCR Section 2.6 • GSCR Section 2.6.1 • GSCR Section 2.6.2 • GSCR Section 2.6.3 • GSCR Section 2.6.4 • GSCR Section 2.6.5 • GSCR Section 2.7
Nailed-up Connections	Yes	• Between any two like terminations (R) • PCM-24 and PCM-30, both CAS and CCS (R) • Supervision passed end-to-end for A/D or D/A (R) • Monitored and auto reconfigure (R) • Support at least 10% of circuits as nailed-up (R) • Non-preemptable (R)	• GSCR Section 2.8 • GSCR Section 2.8 • GSCR Section 2.8 • GSCR Section 2.8 • GSCR Section 2.8 • GSCR Section 2.8

Table 2. MFS Requirements (continued)

DSN Features & Capabilities			
Feature/ Capability	**Critical**	**Requirements Required or Conditional**	**References**
PAT	No	• Classmark for/not for PAT screening (C) • 7 PAT mechanisms (C) • Outgoing call screening (C) • Functional structure (C) • Simultaneous calls limitation (C) • Overflow process (C) • Decrementing call-in-progress count (C) • Call treatment (C) • Queuing (C) • Attendant calls (C) • Operation measurement registers (C) • Maintenance and Administration of thresholds (C)	• GSCR Section 2.11.1 • GSCR Section 2.11.1 • GSCR Section 2.11.1.1 • GSCR Section 2.11.1.2 • GSCR Section 2.11.1.3 • GSCR Section 2.11.1.4 • GSCR Section 2.11.1.5 • GSCR Section 2.11.1.6 • GSCR Section 2.11.1.7 • GSCR Section 2.11.1.8 • GSCR Section 2.11.1.9 • GSCR Section 2.11.1.10
DSN Hotline Services	Yes	• Hotline restrictions (R) • Auto initiate (R) • Analog and digital (R) • Subscription basis (R) • Protected hotline calling (R) • WWNDP interoperable (R)	• GSCR Section 2.12 • GSCR Section 2.12 • GSCR Section 2.12 • GSCR Section 2.12 • GSCR Section 2.12.1-4 • GSCR Section 2.12.2
Tandem Switching	Yes	• Tandem Features (R)	• GSCR Section 8 table 8-1
Network Management	Yes	• Interfaces (R) • Measurements and data generation (R) • Fault management (R) • Configuration management (R) • Accounting management (R) • Performance management (R) • Network Management controls (R) • Remote access (R)	• GSCR Section 9.1 • GSCR Section 9.2 • GSCR Section 9.3 • GSCR Section 9.4 • GSCR Section 9.5 • GSCR Section 9.6 • GSCR Section 9.7 • GSCR Section 9.8
ISDN Services	No	• Electronic Key Telephone Systems (EKTS) (C)	• GSCR Section 10, table 10-3
Synchronization	Yes	• External line timing mode (R) • Line timing mode (R) • Internal Stratum 3 (R)	• GSCR Section 11.1.1.1 • GSCR Section 11.1.1.2 • GSCR Section 11.1.2.1
Reliability	Yes	• GR-512-CORE (R)	• GSCR Section12
Security	Yes	• GR-815, STIGs, and DIACAP (replacement for DITSCAP) (R)	• GSCR Section 13

Table 2. MFS Requirements (continued)

Network Gateways				
Gateway	**Critical**	**Requirements Required or Conditional**		**References**
PSTN[1]	Yes	Trunking	• Positive Identification Control (R) • On-Netting (R) • Off-Netting (R)	• CJCSI 6215.01B • CJCSI 6215.01B • CJCSI 6215.01B
Tactical[2]	Yes	Trunking	• Trunk Groups (R) • Call Processing (R)	• GSCR Section 2.5.5 & 2.5.6 • GSCR Section 4
		Voice	• MLPP (R) • Secure calls (R)	• GSCR Section 3 • CJCSI 6215.01B
		Facsimile	• Analog: TIA/EIA-465-A (R)	• DISR
DRSN[3]	Yes	Access	• Alerting Signals and Tones (R) • Call Processing (R) • Call Treatments (R) • Analog busy/idle (R)	• GSCR Section 5.5 • GSCR Section 4.4 • GSCR Section 4.1 • GSCR Section 4.3.4.1
		Voice	• MOS (R) • MLPP (R) • Secure calls (R)	• CJCSI 6215.01B • GSCR Section 3 • CJCSI 6215.01B

LEGEND:

802.3 - Standard for carrier sense multiple access with collision detection at 10 Mbps
A - Appendix
A/D - Analog to Digital Conversion
ACD - Automated Call Distributor
ANSI - American National Standards Institute
BER - Bit Error Ratio
BRI - Basic Rate Interface
C - Conditional
CAS - Channel Associated Signaling
CCS - Common Channel Signaling
CJCSI - Chairman of the Joint Chiefs of Staff Instruction
D/A - Digital to Analog Conversion
DIACAP - DoD Information Assurance Certification and Accreditation Process
DISR - DoD IT Standards Registry
DITSCAP - DoD IT Security Certification and Accreditation Process
DoD - Department of Defense
DP - Dial Pulse
DRSN - Defense Red Switch Network
DSN - Defense Switched Network
DTMF - Dual Tone Multi-Frequency
E1 - European Basic Multiplex Rate (2.048 Mbps)
EIA - Electronic Industries Alliance
FCC - Federal Communications Commission
GR - Generic Requirement
GR-512 - LSSGR: Reliability, Section 12
GR-815 - Generic Requirements For Network Element/Network System (NE/NS) Security
GSCR - Generic Switching Center Requirements
H.320 - Standard for Narrowband VTC
IEEE - Institute of Electrical and Electronics Engineers, Inc.
ISDN - Integrated Services Digital Network
IT - Information Technology
ITU-T - International Telecommunication Union - Telecommunication Standardization Sector
kbps - kilobits per second
KXX - K= any number 2-8; X= any number 1-9
LSSGR - Local Access and Transport Area (LATA) Switching Systems Generic Requirements
Mbps - Megabits per second
MFR1 - Multi-Frequency Recommendation 1
MFS - Multifunction Switch
MLPP - Multi-Level Precedence and Preemption
MOS - Mean Opinion Score
NI 1/2 - National ISDN Standard 1 or 2
NX56 - Data format restricted to multiples of 56 kbps
NX64 - Data format restricted to multiples of 64 kbps
PAT - Precedence Access Threshold
PCM-24 - Pulse Code Modulation - 24 Channels
PCM-30 - Pulse Code Modulation - 30 Channels
PRI - Primary Rate Interface
PSTN - Public Switched Telephone Network
Q.735.3 - SS7 Signaling Standard for E1 MLPP
Q.955.3 - ISDN Signaling standard for E1 MLPP
R - Required
SMDI - Simplified Message Desk Interface
SMU - Switch Multiplexer Unit
SS7 - Signaling System 7
STE - Secure Terminal Equipment
STIGs - Security Technical Implementation Guides
STU-III - Secure Telephone Unit - 3rd generation
T1 - Digital Transmission Link Level 1 (1.544 Mbps)
T1.619a - SS7 and ISDN MLPP Signaling Standard for T1
TCP/IP - Transmission Control Protocol/Internet Protocol
TIA - Telecommunications Industry Association
TIA/EIA-465-A - Group 3 Facsimile Apparatus for Document Transmission
TIA/EIA-470-B - Performance and Compatibility Requirements for Telephone Sets with Loop Signaling
VBD - Variable bit data
VTC - Video Teleconferencing
WWNDP - Worldwide Numbering and Dialing Plan

NOTES:

1 Voice, facsimile, data, and VTC service requirements for PSTN are identical to DSN with the exception of MLPP.
2 Data and VTC services are not provided via the DSN to tactical (SMU) interface.
3 Facsimile, data, and VTC services are not provided via the DSN to DRSN interface.

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.125 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi.

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of the Alcatel-Lucent Class 5 Electronic Switching System (5ESS) Very Compact Digital Exchange (VCDX) Digital Switching System with Software Release 5E16.2, Broadcast Warning Message (BWM) 07-0003

6. The JITC point of contact is Mr. Joseph Roby, DSN 879-0507, commercial (520) 538-0507, FAX DSN 879-4347, or e-mail to joseph.roby@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 0706704.

FOR THE COMMANDER:

Enclosure a/s

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ADDITIONAL REFERENCES

(c) JITC Memo, JTE, "Special Interoperability Test Certification of the Alcatel-Lucent Class 5 Electronic Switching System (5ESS) Very Compact Digital Exchange (VCDX) Digital Switching System with Software Release 5E16.2, Broadcast Warning Message (BWM) 07-0003," 10 December 2007

(d) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01B, "Policy for Department of Defense Voice Services," 23 September 2001

(e) Defense Information Systems Agency, "Department of Defense Voice Networks Generic Switching Center Requirements (GSCR), Errata Change 2," 14 December 2006, Revised 27 March 2007

(f) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006